BBE Sound D82 Sonic Maximizer

User Manual

Version 2.0

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Introduction

For years professional musicians and engineers alike have used the Sonic Maximizer to professional sound and extra sparkle that is so difficult to capture. Now you can access BBE processing technology within the digital domain. BBE Sound advanced sonic processing technology and proprietary algorithms have allowed us to create a plugin that boasts the following features:

- High quality signal processing algorithms
- Full Automation for all parameters PC and Mac OS X
- Easy-to-use modern interface.
- Windows XP / Vista32 and Mac OS X (Intel & PPC) supported
- VST, AU and RTAS supported
- 24 bit / 192 kHz supported

The BBE Process

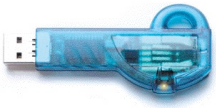
Loudspeakers have difficulty working with the electronic signals supplied by an amplifier. These difficulties cause such major phase and amplitude distortion that the sound reproduced by speaker differs significantly from the sound produced by the original source. In the past, these problems proved unsolvable and were thus relegated to a position of secondary importance in audio system design. However, phase and amplitude integrity is essential to accurate sound reproduction.

Research shows that the information which the listener translates into the recognizable characteristics of a live performance are intimately tied into complex time and amplitude relationships between the fundamental and harmonic components of a given musical note or sound. These relationships define a sound's “sound”. When these complex relationships pass through a speaker, the proper order is lost. The higher frequencies are delayed. A lower frequency may reach the listener's ear first or perhaps simultaneously with that of a higher frequency. In some cases, the fundamental components may be so time-shifted that they reach the listener's ear ahead of some or all of the harmonic components. This change in the phase and amplitude relationship on the harmonic and fundamental frequencies is technically called “envelope distortion.” The listener perceives this loss of sound integrity in the reproduced sound as "muddy" and “smeared.”In the extreme, it can become difficult to tell the difference between musical instruments, for example, an oboe and a clarinet.

BBE Sound, Inc. conducted extensive studies of numerous speaker systems over a ten year period. With this knowledge, it became possible to identify the characteristics of an ideal speaker and to distill the corrections necessary to return the fundamental and harmonic frequency structures to their correct order. While there are differences among various speaker designs in the magnitude of their correction, the overall pattern of correction needed is remarkably consistent. The BBE Process is so unique that 42 patents have been awarded by the U.S. Patent Office.

Authorization / iLok USB Smart Key

What is an iLok?
The iLok smart key enables you to carry all of your software licenses with you wherever you go using a single key. iLok is portable, convenient and hassle free. Use your software at home, at the office, at a studio, or at a friend's house.



Here's how it works:
1. Register online with us (Digital ID or Activation code required)
2. We will transfer your authorization to your iLok.com account. (require 24 hours)
3. You'll download your authorization from your iLok account to your iLok smart key.

Congratulation!, you can now use the software you bought wherever you go by using your iLok key.

Once registered online with us, we will deliver your license authorization electronically to your iLok.com account.

Please follow the steps below to request an iLok authorization.

1) Go to http://nomadfactory.com/register/register_ilok.html to register online with us.
2) On the registration page, enter your Digital ID (product activation code or serial number) in the Digital ID field, enter your iLok User ID in the iLok User ID (your iLok login name) field and complete all required fields, when ready, click 'Submit'

NOTE: Allow us 24 hours to transfer your license authorization to your iLok account.

3) After receiving an email from us saying that your authorization is ready to be downloaded, go to http://ilok.com to download your authorization to your iLok key.

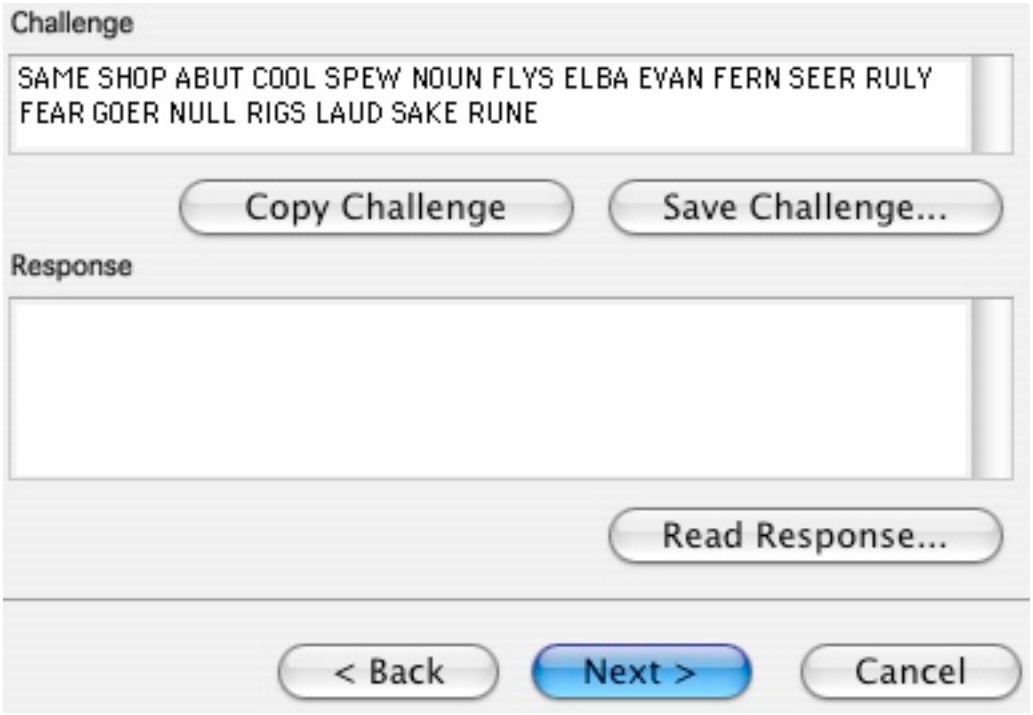
SUPPORT via email:
http://www.nomadfactory.com/support/index.html

Authorization / Hard Disk - Challenge Response

REGISTRATION
Purchasing the license will result in the user receiving a product serial number (Digital ID). This number will enable the user to Register and Authorize the product via our online system accessible from : http://www.nomadfactory.com/register_challenge/index.html.

AUTHORIZATION
Once registered online with us, this software can be authorized by using the response code to your challenge.
The Authorizer application is used for generating the challenge code authorization request.

CHALLENGE / RESPONSE:
1) Launch the Authorizer application, when the Authorization window appears, click 'Authorize'
2) Copy the Challenge code. You will need to paste it in the Registration web page.



3) Go to http://www.nomadfactory.com/register_challenge/index.html to register the **FULL** version online with us.

4) Paste your Challenge code in the Challenge Code field, enter your digital ID in the Digital ID field and complete all required fields, when ready, on the registration page click 'Submit'

5) Your Response Code will be displayed immediately on screen and will be additionally sent to your email address.
6) Copy the Response Code and paste it into the Authorizer application. Click Next, and then Finish.

Congratulations! Your disk is now authorized.

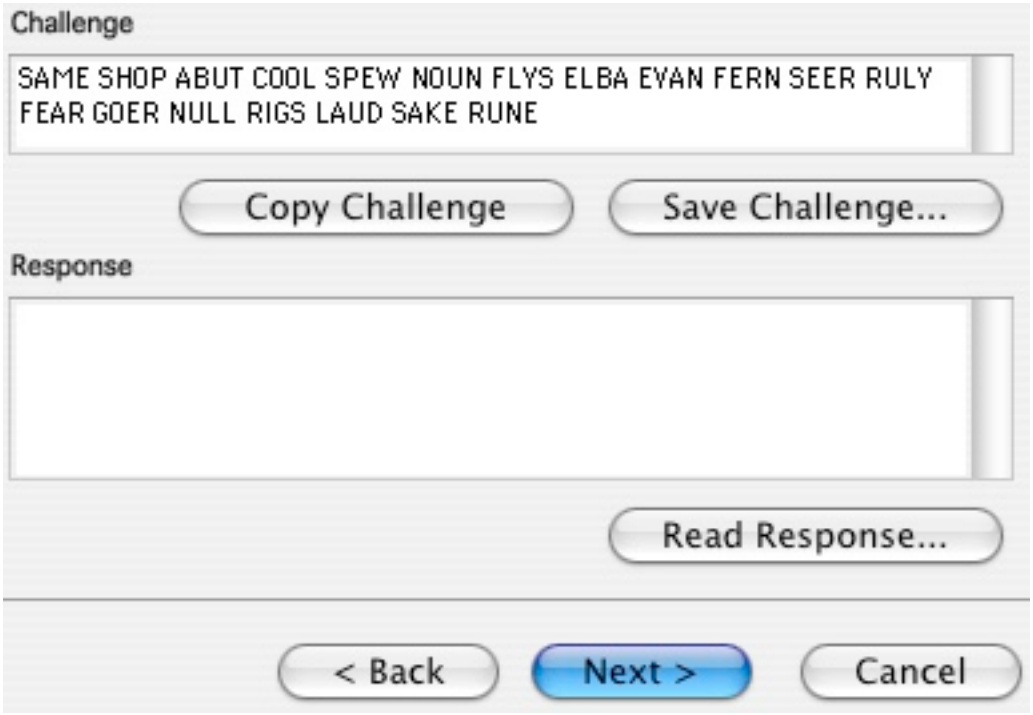
SUPPORT via email:
http://www.nomadfactory.com/support/index.html

Authorization / DEMO Hard Disk - Challenge Response

DEMONSTRATION
This software will work for a 15 day demo period with full functionality. The demo will only run one time per machine. After the demo has expired, you must fully authorize the product in order to continue using the plug-ins, otherwise, use the Uninstaller.commandto uninstall the software.

AUTHORIZATION
Once registered online with us, this software can be authorized by using the response code to your challenge.
The Authorizer application is used for generating the challenge code authorization request.

CHALLENGE / RESPONSE:
1) Launch the Authorizer application, when the Authorization window appears, click 'Authorize'
2) Copy the Challenge code. You will need to paste it in the Registration web page.



3) Go to http://nomadfactory.com/register/demo_reg.html to register the **DEMO** version online with us.

4) Paste your Challenge code in the Challenge Code field and complete all required fields, when ready, on the registration page click 'Submit'

5) Your Response Code will be displayed immediately on screen and will be additionally sent to your email address.
6) Copy the Response Code and paste it into the Authorizer application. Click Next, and then Finish.

Congratulations! Your disk is now authorized.

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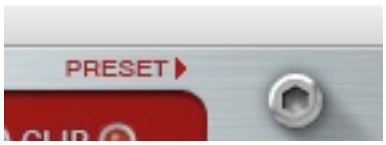
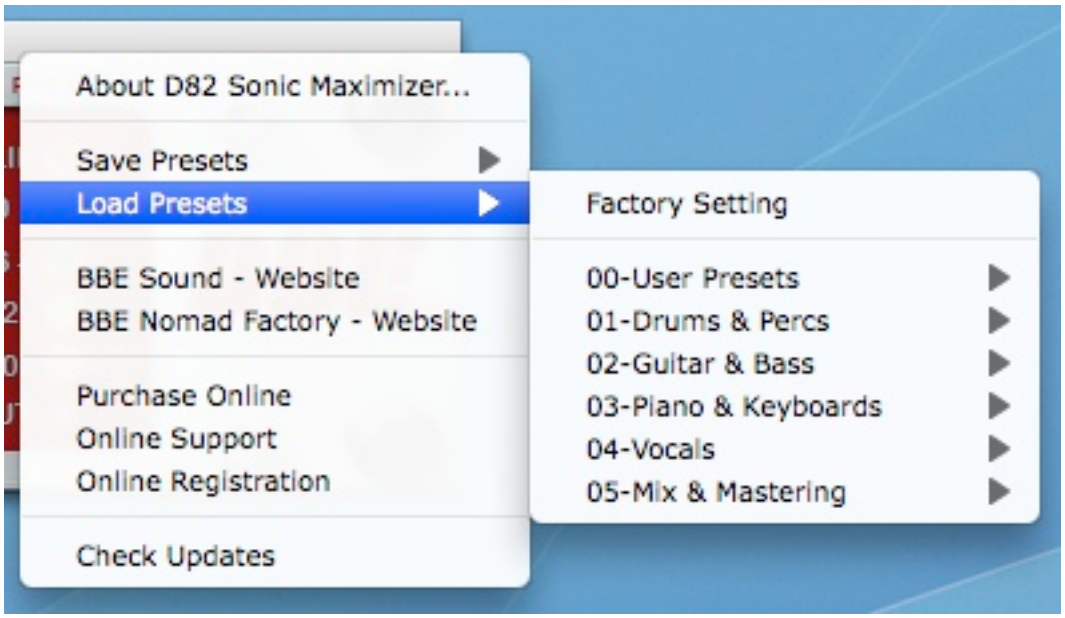
Universal Presets



Pressing the 'Preset button' menu will open the Plug-In menu:

The D82 plug-in utilizes a Universal Exchange platform, this platform enables the user recall their saved presets in any of the supported hosts: AU, RTAS and VST. For this reason you will not use the standard presets protocol when working in the AU, RTAS and VST environments.



About 'the plug-in name'
Will display information about the plug-in as well as the version number.

Save Presets:
Allows saving presets in the BBE/Nomad Factory file format to the disk for both Mac and PC platforms.

- Save New Preset As : Allows you to type the preset name to be saved.
- Save Current Preset : Current preset will be overwritten.

Presets will be saved into:

Macintosh OS X:
/Library/Application Support/BBE Sound/Plug-in Settings/The Plugin Name/00-User Presets :

Windows XP/Vista:
\Documents and Settings\Owner\My Documents\BBE Sound\Plug-in Settings\The Plugin Name\00-User Presets:

Load Presets:
Allows loading factory and 'saved' presets

Others:
If you are connected to the Internet, using this menu will launch a browser and will navigate to the BBE - Nomad Factory website pages.

D82 Sonic Maximizer Controls

The interface of the D82 Sonic Maximizer plugin stays true to the analog BBE units in form and functionality with a few minor exceptions to improve usability. The plugin has five controls:

BBE FUNCTION: This is a bypass button. This push-button switch allows for quick comparison between processed and unprocessed sound. When the switch is pushed in, the process is on and the indicator LED is green. When the switch is out, the process is off and the indicator LED is yellow.

THE KNOBS: Click the mouse pointer on the desired knob, and drag the mouse to modify the knob setting

LO CONTOUR: This regulates the amount of phase corrected bass frequencies.

PROCESS: This regulates the amount of phase corrected treble frequencies.

OUTPUT LEVEL: This control is unique to the plugin version of the D82 Sonic Maximizer. It does not appear on the hardware unit. It is simply available to allow the user to adjust the output level of the processed signal. The knob is needed to allow the user to reduce the signal to avoid clipping in high-signal level situations.

LED DISPLAY: The LED display is used to indicate the output signal level of the BBE D82 Sonic Maximizer (i.e. output level of the processed signal.) Each number on the front panel corresponds to the output signal level, measured in decibels. Example: The “0” indicates a 0dBFs signal level, “-6” refers to -6dBFs, and so on. Once an input signal level has been established, increasing the BBE PROCESS and LO CONTOUR will increase the output signal and cause more LEDs to illuminate. The Clip LED monitors the output signal level. The Clip LED will illuminate when the signal is greater than 0dBFs.

Plugin Usage and Tips

The BBE D82 Sonic Maximizer plugin is designed to be used as an “insert” type effect and should be configured into the effects chain in series with the signal path the same way a graphic equalizer or limiter would be connected. In other words, the entire signal should pass through the plugin. Setting up the BBE D82 Sonic Maximizer as an echo send or “AUX” device like a digital reverb is not recommended, as the processed effect is not fully realized when summed with the original source audio.

The plugin can be used as an effect on individual tracks or applied overall during mixdown. The BBE process dramatically improves the clarity and intelligibility of vocals and musical instruments in a track insert situation. As a global effect, the BBE Process will add more depth, detail and punch over the entire mix. When using in conjunction with an equalizer, the D82 Sonic Maximizer should be added after the equalizer in the signal chain. In the event that the equalizer is being used for drastic tone alteration, then insert the Sonic Maximizer before the equalizer in the signal chain. Placement either before or after an equalizer should have no negative effect on its processing ability, however most users find they prefer more modest use of their equalizers once the BBE D82 Sonic Maximizer has been added to their sound systems.

Several presets have been provided to get you started using the D82 Sonic Maximizer, however, there is no “right” way to it. Simply adjust the settings to determine what sounds right to you. We believe that you can never have enough Sonic Maximizing!.

The D82 Sonic Maximizer does not generate new harmonic material, as many other types of audio enhancers do. Rather, it corrects the phase shift and distortion that happens naturally when the sound is reproduced by the speakers. Because the BBE process is unique, you can use the plugin with other sonic enhancer products you may have.

Even though the plugin was calibrated with several different Sonic Maximizer units, there may be a discrepancy between the levels of an actual BBE unit and the levels of the plugin. Such variations are normal because of the slight differences that exist in the potentiometers and analog nature of the Sonic Maximizer.

The plugin LEDs will provide an accurate visual representation of what is happening with the processed signal in most software applications. However, with some applications, or when preview mode is used, the LED levels may not correspond because the applications route audio signals through the plugin before sending the actual result out to the sound card. The meters on the D82 Sonic Maximizer react to the signal that is currently being processed, not the signal that is coming out of the sound card. This works fine in real-time processing situations, because the sound is sent out the sound card immediately after processing. However, when an application buffers up large amounts of audio, and there is latency before it sends the results out the sound card (e.g. for an offline preview), the meters will react out of synch from what is heard. This is not a defect in the design of the D82 Sonic Maximizer plugin, but rather how host applications handle the processing of the data.

Supported Host Applications and System Requirements

Macintosh® AU, RTAS, VST - Universal Binaries -
Macintosh G4, G5 and Intel Macs with Mac OS 10.3.9 or later, 512 MB RAM, 1027 x 768 screen resolution, high quality audio interface with sample rates from 44 kHz to 192 kHz.

Windows® RTAS, VST
Intel Pentium III or Pentium IV system with Windows XP/Vista32, 512 MB RAM, 1024 x 768 screen resolution, high quality audio interface with sample rates from 44 kHz to 192 kHz.

Sequencers and sound editors compatible with AU, RTAS, VST plug-ins, such as :

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- Cubase SE/SL/SX
- Nuendo
- V-STack
- Acid Pro
- Logic Audio
- Digital Performer
- Sonar
- Sound Forge
- Cool Edit Pro
- Melodyne
- Peak
- Live
- Pro Tools
- Audio Hijack Pro
- Rax
- Kore
- AU Lab
- Final Cut Pro
- Soundtrack Pro
- WaveBurner
- Garage Band
- n-Track Studio
- Adobe Audition
- Tracktion
- DSP-Quattro
- Sagan Metro

and any audio application that fully supports one of the above mentioned plug-in standards.

Known Issues

RTAS (Mac and Windows):

- Some parameters are not displayed correctly in control surfaces, check the GUI to adjust the parameter correctly, this is reproductable on switch selectors and menus.

Audio Units:

- Automation is not reliable with menus. It does not write/read the menu selection correctly.

VST: (Windows)

- Mouse Wheel controls doesn't work.

FOR SUPPORT AND ALL OTHER TECHINICAL QUESTIONS:

Please use the following link:

http://nomadfactory.com/support/index.html

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